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organized by the Department of Environment and Natural Resources (DENR) at the Diamond Hotel on Oct. 5, 2022.

[Opinion] The smart city journey

By: Monchito Ibrahim

A lot of cities have this mistaken notion that if they automate some of their internal processes like business permits and licensing, they now join the ranks of cities considered to be smart. They may have taken the first step towards becoming one, but their journey still has a long way to go. It usually is not a smooth journey, with a lot of iterations along the way but the end goal will always have a lasting impact on the constituents if done properly. And if the city leaders think it is just about technology and should be delegated to their ICT staff, they are terribly wrong.

PHILIPPINE DAILY INQUIRER

PH dismantling barriers to renewable energy boom

By: Jordeene B. Lagare

The Philippines is clearing the hurdles to accelerate the shift to green energy, taking to heart the global agenda of transitioning from fossil-based to zero-carbon energy production and consumption.

THE MANILA TIMES

Biodiversity, reforestation build up resilience to climate change

By: Bella Cariaso

PRESIDENT Ferdinand "Bongbong" Marcos Jr. underscored his administration's thrust to preserve the country's forests when he led a simultaneous bamboo and tree planting activity on his 65th birthday last September 13.

Group links environment protection to food security

By: Eireene Jairee Gomez

Food security and livelihood advocacy group Tugon Kabuhayan said higher budget should be given for environment protection and conservation programs, after the Sierra Madre Mountain Range minimized the damage to crops and livestock from Super Typhoon Karding, saving 17 million brood stock in Central Luzon.

CCC IN THE NEWS:

MANILA BULLETIN

Pitmaster focuses on climate change mitigation initiatives

Responding to President Marcos' call for initiatives to combat climate change, the Pitmasters Foundation has begun embarking on environmental conservation efforts around the country.

Information and Knowledge Management Division

ABS-CBN

As oceans rise, are some nations doomed to vanish?

By Amélie Bottollier-Depois

United Nations, United States - If rising seas engulf the Maldives and Tuvalu, will those countries be wiped off the map? And what happens to their citizens?

The prospect is no longer science fiction as global warming gathers pace, posing an unprecedented challenge to the international community, and threatening entire peoples with the loss of their land and identity.

"This is the biggest tragedy that a people, a country, a nation can face," Mohamed Nasheed, former president of the Maldives, told AFP.

According to UN climate experts, sea levels have already risen 15 to 25 cm (six to 10 inches) since 1900, and the pace of rise is accelerating, especially in some tropical areas.

If warming trends continue, the oceans could rise by nearly one additional meter (39 inches) around the Pacific and Indian Ocean islands by the end of the century.

This is still below the highest point of the smallest, flattest island states, but rising seas will be accompanied by an increase in storms and tidal surges: Salt contamination to water and land will make many atolls uninhabitable long before they are covered over by the sea.

According to a study cited by the UN's Intergovernmental Panel on Climate Change, five nations (the Maldives, Tuvalu, the Marshall Islands, Nauru and Kiribati) may become uninhabitable by 2100, creating 600,000 stateless climate refugees.

'Legal fiction'

It is an unprecedented situation. States have, of course, been wiped off the map by wars. But "we haven't had a situation where existing states have completely lost territory due to a physical event, or events, like sea-level rise, or severe weather events," noted Sumudu Atapattu, of the University of Wisconsin in Madison.

But the 1933 Montevideo Convention on the Rights and Duties of States, a reference on the subject, is clear: A state consists of a defined territory, a permanent population, a government and the capacity to interact with other states. So if the territory is swallowed up, or no one can live on what is left of it, at least one of the criteria falls.

"The other thing that I argue is that statehood is a fiction, legal fiction we created for purposes of international law. So we should be able to come up with another fiction to encompass these deterritorialized states," Atapattu added.

That is the idea behind the "Rising Nations" initiative launched in September by several Pacific governments: "convince members of the UN to recognize our nation, even if we are submerged under water, because that is our identity," the prime minister of Tuvalu, Kausea Natano, explained to AFP.

Some people are already thinking about how these Nation-States 2.0 might work.

"You could have land somewhere, people somewhere else, and government in the third place," Kamal Amakrane, managing director of the Global Centre for Climate Mobility at Columbia University, told AFP.

This would first require a "political declaration" by the UN, then a "treaty" between the threatened state and a "host state," ready to receive the government in exile in a kind of permanent embassy. The population, which might be in that state or even a different one, would then have dual nationality.

Amakrane, a former UN official, also draws attention to an ambiguity in the Montevideo Convention: "When you speak about territory, is it dry or wet territory?"

Humans 'are so ingenious'

With 33 islands scattered over 3.5 million square kilometers (1.3 million square miles) in the Pacific, Kiribati, tiny in terms of land area, has one of the largest exclusive economic zones (EEZs) in the world.

If this maritime sovereignty were preserved, then a state would not disappear, some experts say.

While some islets are already being engulfed as shorelines recede, freezing the EEZs would preserve access to vital resources.

In an August 2021 declaration, the members of the Pacific Islands Forum, including Australia and New Zealand, proclaimed that their maritime zones "shall continue to apply, without reduction, notwithstanding any physical changes connected to climate change-related sea level rise."

But even with rising ocean levels, some would simply not consider leaving their threatened country.

"Human beings are so ingenious, they will find floating ways... to live exactly in this location," says Nasheed, the Maldives' former leader, suggesting people could resort to floating cities.

How these states would find resources for such projects is unclear. The question of financing the "loss and damage" caused by the impacts of global warming will be a burning issue at COP27 in Egypt in November.

Even as experts like Amakrane defend "the right to remain" for people who don't want to leave their heritage, he adds: "You always need to have a plan B."

In this vein, he has called for launching "as soon as possible" a "political" process to preserve the future of uninhabitable states, "because it gives hope to people."

Otherwise, he warns, the current state of uncertainty "creates bitterness and disarray, and with that, you kill a nation, a people."

AL JAZEERA

Photos: Bangladeshis flee as climate crisis submerges villages

For generations, Paban Baroi's family have guarded a temple to Shiva, the Hindu god of destruction, until Bangladesh's mighty Padma River wreaked havoc of its own, wiping out the shrine, their home, and 200 other houses in their village.

The 70-year-old and his neighbours are among thousands in the country who will be rendered destitute this year as surging waters and eroding lands reshape the landscape – a phenomenon made worse by climate change.

One day in September, the waterway abruptly changed course and a swath of the tight-knit community in Baroi's village vanished as the land it stood on was washed away.

"The river current was so powerful," he said. "Many of us have been living under the open sky for the last few days."

"It has been a thriving community of carpenters, fishermen, farmers and traders," said Sohrab Hossain Pir, a councillor for the village. "But now everything is going into the river."

Bangladesh is a delta country crisscrossed by more than 200 waterways, each connected to the Ganges and Brahmaputra rivers that course from the Himalayas through the South Asian subcontinent.

Periodic flooding that inundates homes, markets and schools has always been a fact of life for the tens of millions of farmers and fishermen who crowd the rivers' banks, some of the most densely populated areas of the Bangladeshi countryside.

Scientists say climate change has increased the severity and frequency of the phenomenon, with more erratic rainfall causing more cyclones and flash floods.

This year, Bangladesh saw record flooding that killed more than 100 people and cut off seven million others, with relief efforts continuing for months.

The impact is expected to worsen significantly in the coming decades, just as rising sea levels threaten to displace tens of millions of people along the low-lying Bangladeshi coastline and inundate its most fertile farmlands with salt water.

Bangladesh is already rated by the United Nations and civil society groups as one of the countries most affected by extreme weather events since the turn of the century, with entire inland villages wiped from the map.

About 1,800 hectares (4,500 acres) of land will be eroded by rivers in Bangladesh this year and the homes of at least 10,000 people will disappear, according to the state-funded Centre for Environmental and Geographic Information Services (CEGIS).

Residents of disappeared villages often seek a new life in the slums of Dhaka, a sprawling city of 22 million that has doubled in size since the turn of the century on the back of urban migration.

"Many of these people have been displaced by climate change-related reasons," Ian Fry, UN special rapporteur on climate change, said in a statement that highlighted endemic child malnutrition, a lack of safe drinking water and high rates of human trafficking.

Bangladesh will present a national plan to help manage increasing natural disasters and extreme weather calamities triggered by climate change at November's COP27 climate summit in Egypt.

That includes keeping river erosion to approximately 1,000 hectares per year – still the size of a large international airport.

At the summit, Dhaka will appeal to leaders of developed nations for urgent funding – it estimates a staggering \$230bn is needed by 2050 to mitigate the impact of climate change on the country.

"It is clear to me the burden of the climate change should not be carried by Bangladesh alone," said Fry, adding that richer nations with higher levels of historical emissions should help foot the bill.

"For too long, countries have denied their responsibility for the sufferings they have caused," he said. "They should be paying for this."

In Bangla Bazar, Baroi and his family were yet to find shelter a week after losing their home, while some of his neighbours took refuge in cowsheds.

Those that still have a roof over their heads fretted over where they will turn when the Padma swallows more land.

"I don't want to go anywhere," Baroi said. "But if the river devours the entire village, what will happen? Where will we go?"

BLOOMBERG

[**Dire Climate Impacts Distract From Even More Dire Warnings**](#)

By: Eric Roston

Extreme weather continues to swell like US coastlines during high tide. And with it comes the realization that the climate changes we were warned about are already here. For decades the core question in the public debate over global warming was: Will all these scientific projections come true? Now, Britain has had its hottest summer ever and New Zealand its third-warmest winter in a row. The Rhine, Danube, Yangtze, and Colorado rivers dried out, interrupting commerce and power generation. Heat records were smashed.

Weeks of catastrophic flooding submerged a third of Pakistan, killing more than 1,700 people and destroying 1.3 million homes. Scientists say flood infrastructure, public awareness campaigns, and satellite or drone monitoring may all be a part of improved disaster management—once the country can think about such things again.

If nothing else, Americans — who popularized climate change denial — are starting to believe their own eyes. Almost half of Americans now report they've seen global warming affect other people, and 30% say they've experienced its effects personally. Research also shows that Americans believe most of their compatriots don't support climate policies when the opposite is true. That implies regular Americans aren't nearly as split over the need to take action as some politicians might have us believe.

Nevertheless, big-picture metrics suggest there's still an enormous amount of work to do if we're to avert the worst of the projections. Last year the average amount of carbon dioxide in the atmosphere increased at its fifth-fastest rate since record-keeping began in 1958. The global annual average reached 414.7 parts of CO₂ for every million parts of atmosphere, the highest level in at least 2 million years. Glaciers shrank for the 34th year in a row, ocean temperature set a record, sea levels rose faster than the long-term trend, and a record 32% of land around the world experienced drought. The hotter atmosphere has already locked in almost a foot of global sea-level rise from Greenland alone. And two scientists suggested that the most important metric of all—the imbalance between the Earth's incoming and outgoing energy—wasn't even being measured directly.

Climate scientists continue to improve, or at least try to improve, their ability to describe “unknown unknowns.” The idea that different systems on our planet have “tipping points,” after which they undergo unpredictable change, was introduced in 2008 and updated in September. Researchers now predict that five of the 16 tipping points they've identified may be crossed even at today's temperatures. They include the death of coral reefs, the melting of ice sheets in Greenland and West Antarctica, the thawing of permafrost, and shifts in North Atlantic ocean patterns. Two authors of that paper also contributed weeks earlier to an analysis of unlikely but not impossible “catastrophic

climate change scenarios” that could trigger societal collapse. They called these worst-case scenarios “a dangerously underexplored topic.”

It's sometimes said that climate change will cost rich countries money and poor countries lives. The science says we'll all pay. Heat alone is the leading cause of weather-related deaths in the US, and it's such a problem globally that the cardiology profession may need a specialty in climate change and cardiovascular disease.

Even the estimated damage of global warming is more than three times higher than previously thought. Researchers have long helped governments understand the potential economic damage that every ton of a heat-trapping gas is responsible for. The Biden administration estimates the cost to be, on average, \$51 a ton. A new analysis, drawing on updated scientific and economic findings and more sophisticated models, concluded that the value is closer to \$185 per ton. Governments use these figures in regulatory cost-benefit analyses to correct for the basic market failure that's causing climate change: Greenhouse gas emissions have a cost to society but no market value.

There's always been enough blame to go around, and researchers are getting better at pinpointing who deserves it. The top five historical emitters—the US, China, Russia, Brazil, and India—together have caused \$6 trillion in damage since 1990, or about 11% of average annual global gross domestic product. US emissions, according to the research, are responsible for at least a 1% decline in Pakistan's potential GDP—equivalent to about \$33 billion.

At least the passage of the US Inflation Reduction Act in August is expected to boost a rapidly growing clean economy. Solar and wind power-related job postings have more than tripled since 2010, and they pay 21% more than the average. “The pay premium is even higher for jobs with a low educational requirement,” authors of an analysis wrote. Jobs tend to cluster in counties that employ lots of people in fossil fuel extraction.

The benefits of protecting our climate aren't only financial, though. It turns out the same ecosystems that bring us water, food, flood protection, and biodiversity also bring us happiness. A review of many dozens of previous studies identified 227 ways that nature affects people's well-being. It's a welcome reminder that researchers, let alone policymakers, have little idea how to gauge what people value or calculate the benefit of stopping to smell the roses.

CHANNEL NEWS ASIA

Rising temperatures could increase risk of new infectious diseases in Singapore: Experts

A study published in August found that climate change has exacerbated more than 200 infectious diseases and dozens of non-transmissible conditions.

SINGAPORE: A global travel hub, Singapore sees thousands of visitors arriving on its shores each year.

But rising temperatures could also bring in a different type of visitor into the country: Infectious diseases.

A recent study published in scientific journal Nature Climate Change in August found that climate change has exacerbated more than 200 infectious diseases and dozens of non-transmissible conditions, such as poisonous snake bites.

Poring through the medical literature of established cases of illnesses, researchers found that 218 out of the known 375 human infectious diseases - or 58 per cent - seemed to be made worse by one of 10 types of extreme weather connected to climate change.

This includes malaria, monkeypox and Zika.

In recent years, Singapore has also seen record-breaking numbers of dengue cases, as temperatures continue to rise.

As of Monday (Oct 10), the country has already exceeded 28,000 cases – more than five times the total cases reported for the whole of 2021, which was 5,258.

“As climate changes, the overall geographical range of mosquito species also changes and that’s why we’ve seen the expansion of dengue further away from the equator than historically we have,” said Associate Professor Alex Cook, vice dean of research at the National University of Singapore’s (NUS) Saw Swee Hock School of Public Health.

To fight dengue, the country has employed a variety of mosquito-busting strategies including fogging and releasing special male Aedes mosquitoes that breed with female mosquitoes to produce eggs that do not hatch.

GMA NEWS

[**Philippines tops world disaster risk index 2022; NDRRMC ‘took note’ of report**](#)

By: Joviland Rita

The Philippines has the highest disaster risk among 193 countries around the world this year, according to a global risk index.

The WorldRiskIndex (WRI) measures countries' disaster risk from extreme natural events and the effects of climate change. It calculates each nation's exposure, or the extent the population is exposed to disasters such as storms, flooding, droughts, and sea level rise; and vulnerability—or its susceptibility, ability to cope, and ability to adapt to these events.

The Philippines scored high in its exposure, vulnerability, susceptibility, lack of coping capacities, and lack of adaptive capacities in the face of disasters.

At a public briefing on Monday, the National Disaster Risk Reduction and Management Council (NDRRMC) said the council aims to improve actions to address the country's vulnerability in disasters.

"We took note of the result of the world index report," NDRRMC spokesperson Assistant Secretary Raffy Alejandro said.

"Our goal is to continuously improve the national government policies and programs para ma-address po yung [to address our] vulnerability to natural hazards," he added.

The countries with the highest disaster risk worldwide are the Philippines (WRI 46.82), India (WRI 42.31), and Indonesia (WRI 41.46), the report said.

It added that nine of the 15 countries with the highest disaster risk are among the 15 most populous countries in the world.

The Americas is the continent with the highest disaster risk followed by Asia and Africa.

"Floods, heat waves and droughts are increasing seriously, and climate change is also having a massive impact on the assessment of risks," said the executive director of Bündnis Entwicklung Hilft and project manager of the WorldRiskReport 2022, Peter Mucke.

"For a country's risk of an extreme natural event turning into a disaster, natural and climate-related exposure forms the first part of the equation. The second part is what is known as the vulnerability of society. This vulnerability is the factor of risk that can be directly influenced," he added.

From 27, the WorldRiskIndex now comprises a total of 100 indicators. The new indicators included the effect on populations, expansion of the “exposure” component, among others.

The WorldRiskIndex (WRI) 2022 was published by Bündnis Entwicklung Hilft and the Institute for International Law of Peace and Armed Conflict at Ruhr University Bochum (IFHV).

INTERAKSYON

[**Caritas Philippines launches ‘bamboo forest’ project to help fight climate change**](#)

By CBCP News

Caritas Philippines on Saturday launched its nationwide “bamboo forest” project as a way to help mitigate and adapt to the impacts of climate change.

Its national director Bishop Jose Colin Bagaforo said the project aims to plant at least five million bamboo trees in five years in all the country’s dioceses.

“This is our humble contribution to help protect our environment,” Bagaforo said during the project launch at the La Mesa Dam Nature Reserve Ecopark in Quezon City.

Bamboo is known for its capacity to absorb large amounts of carbon emission from the atmosphere, thus helping stabilize climate change.

The project, according to the bishop, is a keystone to conserve and restore the natural ecosystems, while also promoting sustainable livelihoods.

“This will also become an avenue for social enterprise and an avenue for poverty alleviation,” added Bagaforo, who is also the bishop of Kidapawan.

More than 1,000 bikers join the 32-km “Caritas Bike for Kalikasan” from the Manila Cathedral to the La Mesa Dam Nature Reserve Ecopark in Quezon City on Oct. 8, 2022. (CBCP News)

The launching of the bamboo forest project took place after the first “Caritas Bike para sa Kalikasan” from the Manila Cathedral to the La Mesa Ecopark.

Around 1,000 bikers joined the 32-km bike caravan, which was also held as the national Caritas’ culminating activity for this year’s Season of Creation.

Aside from Bagaforo, among the bikers were Bishop Oscar Jaime Florencio of the Military Ordinariate of the Philippines, and Msgr. Bernie Pantin, secretary general of the bishops’ conference.

Several bike events were also held in other dioceses “to push for more aggressive environmental advocacies”.

Bagaforo asked the public to support the project in whatever way they could. “If you have a chance, let us all plant bamboo in our small communities,” he said.

MANILA BULLETIN

Hans Sy: Green is good business

Joins members of the public and private sectors in a multi-stakeholder conference SM Prime Holdings' Hans T. Sy converged with the national government and key business leaders at the opening day of the first multi-stakeholder forum. This was organized by the Department of Environment and Natural Resources (DENR) at the Diamond Hotel on Oct. 5, 2022.

"My vision for the environmentally resilient Philippines is simply a clean, green, and disaster-resilient country. The priority is for all sectors to be in solidarity, engaging and working together with the survival of the planet and ourselves, in mind," says Sy, chairman of the executive board at SM Prime.

During his talk, Sy noted that having a solid tripartite system, composed of the government, the private sector, and the academe, is crucial in environmental resilience research and innovations, policy, education, budget, and tax among others.

"The government is not alone in nation-building. The private sector is here to join you as partners to provide a whole-of-society approach, towards an inclusive, prosperous, and sustainable Philippines."

For businesses, Sy underscored the value of internal strategic planning to "ensure there are enough resources to last for generations to come." To do that, attention, allocation, and investment in the conservation of natural resources must be included in responsible land development, sustainable operations, good governance, and stable financial structures plans.

On the resilience front, Sy encouraged the government and the private sector to be prepared for disasters that have become more intense and frequent. "Good urban planning, infrastructure development, and internal processes must have resilience as a priority. To reduce the risk, we must reduce our vulnerability and exposure. We must 'look before we leap' by way of risk-informed decisions."

During the question-and-answer session, Mr. Sy emphasized the point that the government must have open communication with the private sector and that it would be advisable to involve businesses in creating and revisiting policies to ensure compliance. He lauded the DENR for updating some of its policies and furthered that the department may consider having industry-specific policies for businesses, especially SMEs (Small and Medium Enterprises), that may be implemented and adopted widely.

"The DENR can prioritize public-private partnerships to promote the implementation of programs towards a circular economy. We ourselves have plans for an Integrated waste management facility. If there is recognition or incentive, it will further encourage more private sector initiatives for innovation," he states.

Sy, a key figure in the private sector's advocacy for sustainable development, was joined by President and CEO of San Miguel Corporation Ramon S. Ang, President and CEO of JG Summit Holdings, Inc. Lance Gokongwei, Chairman and CEO of First Philippine Holdings Corporation Federico Lopez, President and CEO of Vista Land and Lifescapes, Inc. Manuel Paolo Villar, and Senior Vice President of Consumer Bank Marketing and Digital Platforms under Bank of the Philippine Islands Mariana Zobel de Ayala. Each shared their perspectives about the Philippines being environmentally resilient and what the DENR can do as a development partner.

Prior to the private sector's plenary session, President Ferdinand "Bongbong" Marcos Jr. graced the event and delivered a keynote address. He lauded the private sector's engagement to address climate change and promote green growth in the country.

"Your presence here gives the entire nation hope that we not only have the expertise, but also the commitment, the determination to steer our practices and systems towards a greener direction," the President said.

On the other hand, Environment Secretary Maria Antonia Yulo Loyzaga said in her speech, "With your support and under new leadership, the DENR looks forward to charting the course for achieving climate and disaster-resilient, inclusive, green and blue recovery for our nation. The department's role is to build the lifelines to resources on land, and in the air and sea, that will ensure inclusive, resilient, and sustainable development. In order to do this, we will need to work with partners to develop integrated strategies for a science-based, risk-informed, ethical, and equitable stewardship of our environment."

Also, the DENR and the Department of Labor and Employment (DOLE) signed an environmental labor agreement to recruit more workers for the government's forestation and coastal projects under the latter's Tulong Panghanapbuhay sa Ating Disadvantaged/Displaced Workers (TUPAD). This was created as part of the DENR's commitment to "creating partnerships and accelerating cooperation and collaboration for the country's resilience."

More than 200 from the private and business sectors, other government agencies, academe, civil society, civic organizations, non-government organizations, and people's organizations, among others, joined the three-day DENR multi-stakeholder forum.

[**\[Opinion\] The smart city journey**](#)

By: Monchito Ibrahim

A lot of cities have this mistaken notion that if they automate some of their internal processes like business permits and licensing, they now join the ranks of cities considered to be smart. They may have taken the first step towards becoming one, but their journey still has a long way to go. It usually is not a smooth journey, with a lot of iterations along the way but the end goal will always have a lasting impact on the constituents if done properly. And if the city leaders think it is just about technology and should be delegated to their ICT staff, they are terribly wrong.

Digital connectivity plays a very important role in the cities' journey. It is the platform necessary to enable their constituents to access services virtually, develop a digital culture that would allow them to take advantage of opportunities resulting from digitalization, and allow the cities to easily implement sustainability initiatives.

Economist Impact, a global think tank, recently released the Digital Cities Index 2022, a ranking of 30 major cities scattered across the globe. Five ASEAN cities were selected for the ranking including Manila, which I assume refers to Metro Manila. The ranking considered the four key pillars of digital connectivity, services, culture, and sustainability to assess the extent and impact of digitization in the selected cities. Manila came out dead last in the ranking with an overall score of 39.1, compared with the Asia Pacific average of 59.4 and the global average score of 63.3. Manila's rank may not be to its leaders' liking but at least they now can see where the city stands globally and use the results as a benchmark for them to work on.

Every smart city journey aims for a high quality of life for its citizenry, a competitive economy, and sustainability. Therefore, most cities aspiring to become a smart city have anchored their initiatives on the 17 UN Sustainable Development Goals.

To achieve high quality of life for its citizenry, a city must be livable, safe, and must address problems stemming from rapid urbanization and increasing population. Its citizens must be able to access social services both physically and online preferably by mobile. To become a competitive economy, the city must make it easy for businesses to prosper and transact with it. Rules and policies must be consistent and predictable. Excellent digital connectivity must be ubiquitous which would allow businesses to transact online for things like permits and payments. It must be able to address vulnerability to disasters and resiliency to issues related to health and climate change.

We see pockets of excellence among several Philippine cities. The Quezon City government recently got awards from the International Data Corporation (IDC), a leading global market intelligence organization, for its programs on customer experience and digital innovation. IDC's 2022 Future Enterprise Awards recognized the city's QC Biz Easy – Online Unified Business Permit Application System as the country's Best in Future of Customer Experience. Its QC iBiz View on the other hand was recognized as the Best in Future of Digital Innovation.

A city does not have to be big to become a smart city. In the case of Cauayan City, a third class component city in Isabela, it was able to evolve as the country's best practice in smart and sustainable cities. The Cauayan City government, thru the able leadership of its then Mayor Bernard Dy, has aggressively embraced the smart city concept and implemented digital initiatives anchored on the UN SDGs. Throughout its journey, it has collaborated with global partners like the Smart Cities Network in Singapore and World Smart Sustainable Cities Organization in South Korea providing the city with a platform for knowledge exchange, innovation, technologies, and best practices that improved its capacity to achieve its smart city aspirations. Mayor Caesar Dy, Jr. who took over from Mayor Bernard Dy has committed to continue with the city's journey. If it can be done in a small, poor, and highly agricultural city, there is no reason for other cities not to do it.

The magnitude of a smart city journey is immense. It is not about technology alone and not about automating the same processes which need to be simplified and streamlined in the first place. It will involve the presence of digital connectivity, culture change, a data-driven governance mindset, digital services, and skills development. It is only when all of these are made to be customer-centric that the city is now able to provide a delightful experience for its constituents. That will take political will from a passionate leader to happen. And the leader must make sure that the experience is consistent by personally checking on the systems from time to time. After all, it is about building a smart ecosystem rather than an ego system.

PHILIPPINE DAILY INQUIRER

PH dismantling barriers to renewable energy boom

By: Jordeene B. Lagare

The Philippines is clearing the hurdles to accelerate the shift to green energy, taking to heart the global agenda of transitioning from fossil-based to zero-carbon energy production and consumption.

This time, the government is banking on the private sector to harness cleaner sources of energy, and ultimately reduce reliance on fossil fuels. To get the ball rolling, it started overhauling the rules and policies governing renewable energy.

Just recently, the Department of Energy (DOE) mandated distribution utilities, electric cooperatives and retail electricity suppliers to tap more renewables in supplying electricity to their customers.

Under the Renewable Portfolio Standards (RPS), the percentage of utilization of renewables for on-grid areas increases to 2.52 percent from the current 1 percent. The DOE says the adjustment annual percentage under the RPS, as encapsulated in Department Circular No. 2022-09-0030, will take effect in 2023.

“By increasing the annual percentage overtime, renewable energy (RE) would drive us on a path toward energy sustainability,” says Energy Secretary Raphael Lotilla.

RPS is a market-based policy requiring suppliers to source or produce a fraction of their electricity from eligible RE plants. It is also a mechanism designed to provide a guaranteed market for RE.

Likewise, the DOE has given all renewable sources a preferential dispatch in the Wholesale Electricity Spot Market (WESM). Under newly-issued Department Circular No. 2022-10-0031, all qualified and registered generating units utilizing RE resources must become both “must dispatch” and “priority dispatch” in the current bidding order in the WESM.

In a previous policy promulgated in 2015, the agency had qualified that “must dispatch” referred to generating units that utilize intermittent RE-based plants such as wind, solar, run-of-river hydro and ocean energy. It had no bearing on whether or not these plants were part of the feed-in tariff scheme, a financial incentive to entice investments in the renewable arena.

“Priority dispatch,” on the other hand, gave preference to biomass plants under the feed-in tariff scheme pursuant to Section 7 of the Renewable Energy Act of 2008.

But with the new circular, geothermal, biomass and hydroelectric power plants may now enjoy the option of preferential dispatch in the WESM, the centralized venue for buyers and sellers to trade electricity as a commodity.

It also requires the market operator, the WESM Governance Arm, as well as the system operator and distribution utilities to make the necessary adjustments to the WESM rules and manuals to ensure the efficient and effective scheduling and dispatching of preferential dispatch generating units.

Prior to that, the Philippine Electricity Market Corp. (PEMC) had launched the interim commercial operations of the renewable energy market (REM), which serves as the platform for buying and selling RE certificates.

RE certificate is a market-based instrument representing the property rights and other nonpower attributes of generating nonconventional energy resources.

PEMC, as the designated market registrar, will issue one RE certificate for every megawatt-hour of actual generation from qualified RE sources to market participants.

Easing foreign ownership

Beyond policy updates, the DOE sought legal guidance from the Department of Justice to push for renewables further, hoping to lure more investments in this sector. The DOJ, in turn, rendered at least two legal opinions favoring liberalization of ownership.

Earlier, the DOJ opined that investments in this sector are not subject to the Constitution's 40-percent foreign ownership restriction. The department, in its Sept. 29 opinion, explains that Section 2, Article 12 of the 1987 Constitution—on the exploration, development and utilization of natural resources—"only covers things that are susceptible to appropriation, thus excluding the sun, the wind and the ocean."

All forces of potential energy, it says, are not considered "kinetic" or energy in motion. This means RE sources—including solar, wind, hydro and ocean or tidal energy—are kinetic energy while potential energy is energy at rest.

"Moreover, the intent of the Constitutional foreign ownership restriction was to preserve for Filipinos limited and exhaustible resources," it adds. "The compelling reason behind the Constitutional foreign ownership restriction finds no application to inexhaustible renewable energy sources."

But let's get first things first: the DOJ pointed out that the DOE must amend the implementing rules and regulations of Republic Act No. 9513 before foreign investors could own 100 percent of RE projects. Lotilla says they are undertaking the necessary revisions to these RE guidelines.

At present, foreign developers are allowed to develop RE plants through a service or operating contract with the government but their ownership interest is capped at 40

percent since the state has full control and supervision of the exploration, development, production and utilization of natural resources.

The DOJ, in a separate opinion dated Sept. 23, surmised that the National Power Corp. (Napocor) has the legal authority to borrow funds or contract loans to fulfill its edict of providing electricity to remote areas nationwide.

Missionary electrification

Lotilla says the favorable DOJ opinion will allow the state-run corporation “to establish a credit line with local banks that would enable it to manage the fuel price increase that has significantly affected the NPC’s financial position.”

The Energy chief says the necessary controls are now in place for the judicious use of the power to contract loans from financial institutions.

The Electric Power Industry Reform Act puts Napocor in charge of energizing off-grid areas through the Small Power Utilities Group, and generating power and providing associated power delivery systems in areas not connected to the transmission system.

Currently, Napocor’s missionary electrification initiative is bankrolled by the Universal Charge for Missionary Electrification, collected by power distributors from all electricity end-users.

“Private sector investments are central [to] achieving our renewable energy targets and vision for the Filipino people and this is a welcome development for our foreign investors to invest in renewable energy production here in our country,” Lotilla says.

Napocor is now seen to have the leeway to raise funds for RE projects in areas not palatable to private investors.

Private sector commitment

The government is aiming for a 35 percent share of renewables in the energy mix by 2030 and 50 percent by 2040.

The share of renewables before the enactment of the RE law stood at around 35 percent. However, the share of nonconventional energy in the power generation mix has been on the downtrend, with the latest DOE data noting that coal-fired power plants as of 2021 cornered a 58.48-percent share, while renewables came at a distant second with 22.4 percent.

Company executives laud recent policy moves to significantly grow the uptake of RE in the country and vow to pitch in the campaign to further promote the use of renewables.

“We support the DOE’s latest move to increase the share of renewable energy in our power generation mix. In San Miguel, we have been investing heavily in advanced technologies and new facilities to meet our country’s increasing power needs and

significantly reduce our emissions," San Miguel Corp. (SMC) president and CEO Ramon Ang says in a message.

SMC's plan is to undertake 10,000 megawatts (MW) of RE capacity in the next 10 years, in support of the country's goal to sustain economic recovery and growth and speed up the transition to a clean energy future.

"In support of this, we recently completed building 31 battery energy storage systems facilities nationwide. These can store energy coming from intermittent renewable sources such as wind and solar and purposely deploy them when supply is needed the most," Ang says.

"Our approach has always been to maintain a broader portfolio of both the reliable traditional and variable renewable sources with the balance shifting towards more clean energy and less fossil fuels," he adds.

ACEN Corp. president and CEO Eric Francia makes the same pledge.

"We welcome the recent moves by DOE, as they all encourage more investments in renewables. We are also hopeful that the renewable energy market and the reserve market will be implemented soonest as both are also critical in scaling up renewables in the country," says Francia in a message.

Alternergy Holdings Corp. says the updated RPS requirement will expand the RE industry. Its chair Vicente Perez says the Philippines, possessing a wide array of RE projects, is in a "unique position" to take advantage of the growth of the RE sector in the next five years.

"The increase in the mandated RPS requirement will create a massive demand for RE capacity moving forward," Perez, a former Energy Secretary, says in a statement.

"The Philippines cannot continue being hostage to any jump in the world oil and coal prices. The policy directions being set by the DOE and the new administration to meet the country's electricity requirements with more and cleaner energy solutions mitigate these risks, at the same time ensure a sustainable energy supply for the country," he adds.

Jaime Azurin, Meralco PowerGen Corp. president and CEO, hails the expanded rules on RPS, saying these will fast-track the country's energy transition.

"We welcome this policy update as it will advance deployment of clean energy in the country and trust that together with other RE-related policies (e.g. General Energy Auction Program) would keep the power rates unaffected," says Azurin in a message.

MGen, the power generation business of Manila Electric Co., is constructing 1,500 MW of renewable energy projects in the next seven years, starting with Bulacansol's 55 MW

solar plant in San Miguel, Bulacan. Azurin says they have commenced the construction of solar plants in Rizal and Ilocos Norte.

Fund flows

So far, about P270.8 million of investments have flowed into the local RE space. Based on the latest DOE tally, solar cornered almost half of the total investment at P130.4 million while wind came in next with P52.9 million, followed by hydropower, P38.7 million; biomass, P38.2 million and geothermal, P10.5 million.

As of June this year, the DOE has awarded a total of 998 RE contracts with a total installed capacity of 5,460.59 MW and potential capacity of 61. INQ

THE MANILA TIMES

Biodiversity, reforestation build up resilience to climate change

By Bella Cariaso

PRESIDENT Ferdinand "Bongbong" Marcos Jr. underscored his administration's thrust to preserve the country's forests when he led a simultaneous bamboo and tree planting activity on his 65th birthday last September 13.

More than 130,000 bamboo culms and native tree seedlings were planted in 111 sites covering an aggregate area of 681.5 hectares. The indigenous tree seedlings included agoho, kalumpit, yakal, molave, narra, bignai and banaba.

For the President, expanding the forest cover and reinforcing forest protection is part of the overall strategy to boost the country's resilience to natural disasters.

He led the kickoff ceremonies at an old sanitary landfill that was being rehabilitated by the Department of Environment and Natural Resources (DENR) in Barangay Pintong Bocaue in San Mateo, Rizal. The landfill was shut down in November 1989.

Planted at the site were 1,613 seedlings, including various species of bamboo and fruit trees.

The event coincided with the celebration of Philippine Bamboo Month.

Environment Secretary Maria Antonia Yulo-Loyzaga said the nationwide tree planting symbolized the Marcos administration's commitment to address climate change, mitigate its effects, and alleviate the risk of vulnerable communities and ecosystems.

Environment Undersecretary Annaliza Teh said that for 2023, at least P2.4 billion was allocated for the National Greening Program.

Under the enhanced greening program, the government targets at least 11,631 hectares of plantation.

"This will include 11,000 hectares for new plantations, and the rest we will focus on the protection and maintenance of the existing reforested areas that we have undertaken in the past years. The National Greening Program is under the forest development, rehabilitation, maintenance and protection [initiative]," Teh said.

The government's greening program started in 2011 and has since covered at least 98,480 hectares with 112.5 million seedlings.

For local wildlife

Planting native trees ensures food and shelter for local wildlife. Insects, birds and small mammals are dependent on the shelter and food sources that trees provide, the DENR said.

Native trees also have a better chance of survival because they have adapted to the environment where they naturally grow. They benefit the local ecosystem and have a better chance for a long and healthy life.

The DENR named among its priorities the conservation of protected areas covering at least 7.79 million hectares.

It said that from 2010 to 2020, the country's forest cover has increased to 5.65 percent totaling 7,226,394 hectares and mangrove forests to 311,400 ha.

Pacific Rim Conservation Executive Director and Haribon Foundation member Lindsay Young said the Philippines is one of the world's megadiverse countries.

"There are few islands in the world considered as megadiverse. Despite a relatively small size, the Philippines has the fifth largest coastline in the world, primarily because it has a lot of islands," Young said.

There are also many native land mammals in the Philippines, she added.

"If you look at Palawan, same thing with southern Mindanao, there are migratory pathways for mammals. Palawan did not ever really connect with the northern part, specifically with Luzon Island, so there are unique biographic regions that have a really high rate of endemism, things that are found nowhere else in the world, allowing them to evolve in isolation," Young said.

The country also teems with unique plants and animals.

"The things that make them unique usually make them vulnerable because they have unique niches, and those niches [are destroyed] through habitat loss, and the extinction rate is much higher," she said.

Young said that foreign species are harmful because they threaten the native species.

"If new things arrive, usually one thing must go extinct because it will fill a niche that has already been filled. So these new species compete with the native ones that are there and cause that species to go extinct. That is why invasive species, particularly those that are brought by humans, are such a problem, particularly in the island system," Young said.

She underscored the need to stop the wildlife trade to prevent the spread of more diseases from animals.

"The clear link is the wildlife trade. Reducing the supply outside the demand for wildlife products and not keeping wildlife animals in extremely crowded condition reduce the chances that you are going to have viruses hopping from animals to people," Young said

Group links environment protection to food security

By: Eireene Jairee Gomez

Food security and livelihood advocacy group Tugon Kabuhayan said higher budget should be given for environment protection and conservation programs, after the Sierra Madre Mountain Range minimized the damage to crops and livestock from Super Typhoon Karding, saving 17 million brood stock in Central Luzon.

"About 17 million brood stock would've been lost if not for Sierra Madre. Luzon is number one in aquaculture production, and Central Luzon or Region 3 produces 16 percent by value. By volume, it's also big," Bureau of Fisheries and Aquatic Resources Director Wilfredo Cruz said in recent media briefing.

Brood stock are mature fish used in aquaculture for breeding purposes.

A week after Yolanda-strong Karding hit the country on Sept. 25, 2022, farmers, fishers, youth, indigenous people, and other food producers continue to thank the Sierra Madre Mountain Range, as well as the Caraballo and Cordillera Mountains, for diminishing the impact of the Category 4 typhoon.

Sierra Madre's impact on Karding shows that nature is vital to ensuring a sustainable livelihood, said Norberto Chingcuanco, vice president for corporate planning of Feedmix Specialist Inc. and Tugon Kabuhayan convenor.

"We need nature for our livelihood. Aquaculture depends on clean water to survive and thrive. It is in our best interest to preserve the environment so we can keep on producing fish," Chingcuanco said.

Six regions affected by Karding, or the Cordillera Autonomous Region (CAR), Ilocos Region, Cagayan Valley, Central Luzon, Calabarzon, and Bicol Region, are connected through the three mountain ranges, Asis Perez, former BFAR national director and Tugon Kabuhayan convenor, said.

"The impact of Karding to everyone in the agricultural community might have been worse had it not been for Sierra Madre. The mountains both protect us from danger and ensure that we are able to produce food," he said.

Resource persons also called for the legislation of measures that would protect watershed areas including in the mountain ranges, and the halting of the construction of the Kaliwa Dam.

Conrad Vargas, executive director of the Save Sierra Madre Network Alliance Inc., said indigenous peoples who live in the mountains are opposed to the Kaliwa Project.

Vargas, also of the Prelature of Infanta-Community Organization of the Philippines (PI-COPI) Inc., said they consider the mountains their school, hospital, and market, where they get their jungle survival skills, medicines, and source of produce for sale.

"If the mountains are destroyed, the plains are destroyed. If the plains are destroyed, the bodies of water are destroyed," Vargas said in Filipino.

Mark Almazan, honorary chairperson of the youth group Southern Tagalog for Environmental Development and Protection of Sierra Madre (STEP Sierra Madre), said alternative water sources apart from Kaliwa Dam must be harnessed. He said Laguna de Bay and rainwater may be used to supply water for Metro Manila.

Jhun Pascua, of Nagsama-Lamon Bay (Nagkakaisang Samahan ng mga Mangingisda sa Lamon Bay), recommended the push and passage of proposed legislative measures such as the Watershed Protection Bill.

Karding swept through Luzon in the last week of September after intensifying from a severe tropical storm to a super typhoon within hours. With maximum sustained winds of 195 kph and gustiness of 240 kph, it is one of the strongest typhoons to have formed and made landfall this year.

Sierra Madre is the longest mountain range in the Philippines. Spanning over 540 kilometers and running from the province of Cagayan down to the province of Quezon, it forms a north-south direction on the eastern portion of Luzon.

CCC IN THE NEWS:

MANILA BULLETIN

Pitmaster focuses on climate change mitigation initiatives

Responding to President Marcos' call for initiatives to combat climate change, the Pitmasters Foundation has begun embarking on environmental conservation efforts around the country.

Lawyer Caroline Cruz, the foundation's executive director, said that as most countries try to transition to the use of green technology, Pitmaster supports these initiatives while it stressed that their relief operations will continue and will coincide with its environmental efforts.

The foundation has been engaged in relief operations in typhoon-hit areas and Covid-19 relief efforts, alongside providing dialysis assistance to individuals suffering from kidney-related diseases.

In line with its climate change initiatives, the foundation sponsored a Disaster and Climate Emergency Policy Forum, dubbed "2023-2028 Policy Roadmap: Charting the Urgency of the PBBM Climate Agenda and the Philippine Contribution to Achieve the Global Goal of Net Zero 2030 and 2050 Targets," wherein stakeholders from various sectors were invited to talk about climate emergency measures.

"We are here to support the government's call on climate change issue," Cruz said in a forum organized by the foundation to address climate-related issues on Sept. 29.

Cruz also said the foundation wants solutions that are focused on environmental conservation.

"We want solutions that will both create growth and solve our climate problems. We are proud to have engaged in environmental conservation since early in our founding as a non-profit organization," she added.

[IN PHOTO: Various stakeholders from different private companies and agencies gather to conclude the first part of the "2023-2028 Policy Roadmap: Charting the urgency of the PBBM Climate Agenda and the Philippine Contribution to Achieve the Global Goal of Net Zero 2030 and 2050 Targets," event on September 22, at the Discover Primea Hotel in Ayala, Makati. Some of the individuals who were present are Albay 2nd District Representative Joey Salceda, Climate Change Commission Secretary Robert Borje, Department of Finance Assistant Secretary Niel Cabilis, National Economic and Development Authority Undersecretary Rosemari Edillon.]

Some of the agencies that participated in the event were the Department of Finance, Climate Change Commission, Local Climate Change Adaptation for Development,

National Economic and Development Authority, Bangko Sentral ng Pilipinas, Department of Energy, Department of Environment and Natural Resources, and the Department of the Interior and Local Government, among others.

The foundation initially partnered with the DENR for tree-planting activities in Laguna where more than 6,000 seedlings will be planted across 250 hectares of land.

As of today, the foundation has helped the University of the Philippines Resilience Institute, 4K Foundation, and Komumidad in planting 7,225 trees.

Pitmaster is also working with UP Los Baños for planting of endangered species.

[IN PHOTO: Pitmaster Foundation Executive Director Atty. Caroline Cruz with Albay 2nd District Representative Joey Salceda, Climate Change Commission Secretary Robert Borje, Department of Finance Assistant Secretary Niel Cabiles, National Economic and Development Authority Undersecretary Rosemari Edillon, and Department of Energy Undersecretary Feliz William Fuenteabella at a side conference during the “2023-2028 Policy Roadmap: Charting the urgency of the PBBM Climate Agenda and the Philippine Contribution to Achieve the Global Goal of Net Zero 2030 and 2050 Targets,” event on September 22, at the Discover Primea Hotel in Ayala, Makati. They talked about how government agencies can team up to offer solutions that can mitigate the effects of climate change through their respective agencies]

It is also open to partnering with non-government entities, the academe, student organizations, and government agencies for reforestation projects to ensure ecological benefits for Filipinos now and in the future.

The foundation’s initiative is in support of President Marcos’ move to address climate change in the country, which suffers more than it should when it comes to carbon emissions.

- END -

